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Comments: Biden's Executive Order 14072 is laudable, and rightly underscores the value of conserving old growth forests.

However, his list of threats to America's forests (identified as "climate impacts, catastrophic wildfires, insect infestation, and disease") is missing a crucial primary threat: logging.

Unfortunately, the scale of domestic logging is now increasing, often under the guise of wildfire prevention (positively cast as thinning or hazardous fuel reduction). While prescribed fires may lessen wildfire risks, increasing evidence demonstrates that logging poses substantial threats to forests, instead of being a useful tool for wildfire risk mitigation.

Logging leads to a variety of negative impacts on forest health. For example, logging roads create conduits for wind-driven wildfires to spread (today's mega-fires are primarily wind-driven). Logging machinery also compacts the soil, damaging vital soil ecosystems and decreasing the amount of water storable in the soil. Tree removal also means that much more sunlight hits the ground, resulting in hotter and drier microclimates that are not conducive to forest health.

Logging itself also generates significant carbon emissions, both with the machinery involved, and the release of stored carbon during the lifecycle of forest products. Fallen trees in forests have been found to store 25% more water than the surrounding soil, while providing valuable shade and nutrients as they decompose.

Even charred logs on the ground store carbon. Surprisingly, wildfires typically only lead to emissions of less than 5% of forest carbon, so long as salvage logging is not done in the aftermath.

Importantly, catastrophic wildfires are being found to be more likely to occur, with higher heat intensities, in areas where logging has been done in the past. These destructive mega-fires are not driven solely "by decades of fire exclusion and climate change" (causes highlighted by this Executive Order), but also and significantly by decades of logging and clear-cutting.

Mature and old-growth trees are the most vital components of healthy forests. Mature trees shade the understory, causing young trees to grow more slowly, which is good for trees. They are then more resilient to wildfires and to falling over, because their early growth is slow enough for them to produce very dense wood.

Mature trees' shading of the forest floor also increases its ability to hold water, stay cooler, and resist drought. A mix of tree ages, with mature and old-growth trees present, also facilitates much more stress-resilient forest ecosystems, since older trees are able to "help" young ones by transmitting nutrients directly along the mycorrhizal networks in the soil.

Healthy forests are some of the most effective carbon-capture resources that we have. They also shelter an abundance and diversity of life, including many endangered species. Old-growth forests should be an enduring part of American life, valuable for the many Americans who come to these places to hike and camp, to rest and restore themselves, and to hunt.

We have lost so many of our old-growth forests, that it is vital we protect what remains. Logging-particularly when it involves removing mature and old-growth trees-weakens forests, making them more prone to climate impacts, catastrophic wildfires, insect infestation and disease.

Consequently, I recommend and support an immediate moratorium on logging of any mature or old-growth trees, until the forest inventorying project (currently underway) is completed, and permanent protections for mature and old-growth trees are in place. I also support and urge the initiation of a rule-making process based on a minimum definition of mature and old-growth trees as 50 years or older.

Only by protecting essential mature and old-growth trees (those we have now, and those that will become old-growth) will we be able to rely on our forests to resist climate impacts and wildfires, while providing us with the cherished places we've come to associate with America the Beautiful.